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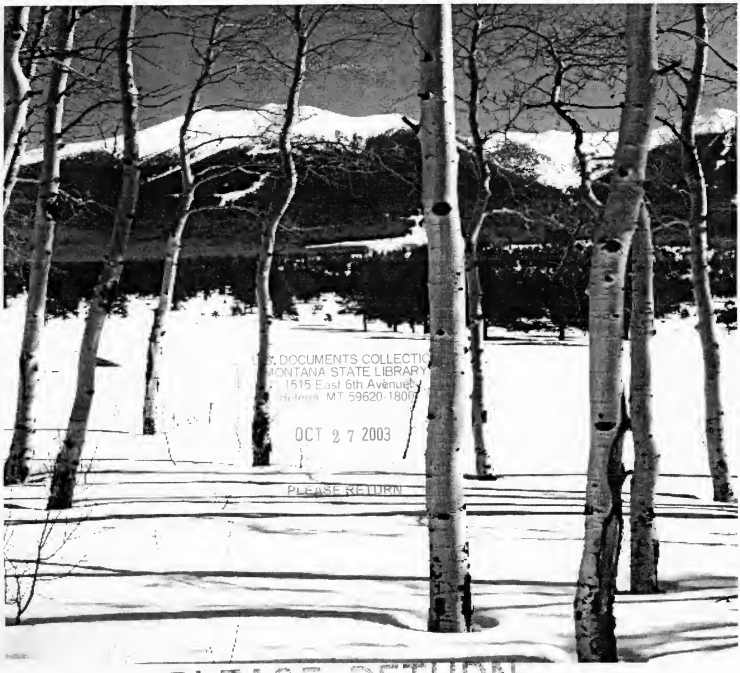
Natural Resources Conservation Service

Montana Basin Outlook Report June 1, 1998



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Basin Outlook Reports
and
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How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Natural Resources Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

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Natural Resources Conservation Service (formerly the Soil Conservation Service)
Bozeman, Montana

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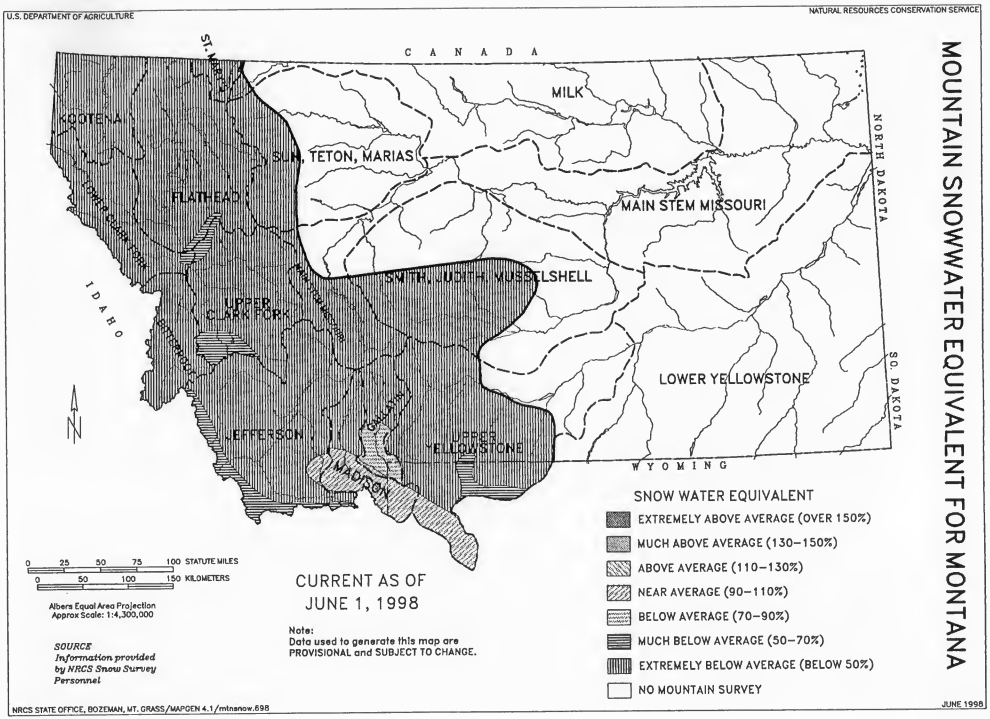
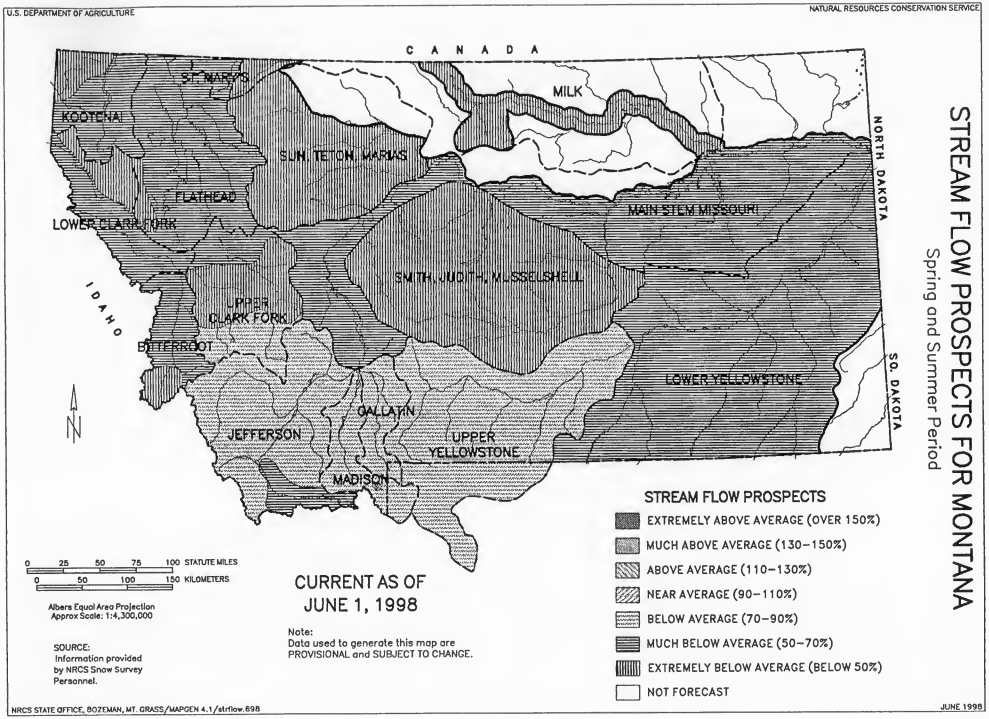

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
MOUNTAIN SNOWWATER EQUIVALENT FOR MONTANA
CANADA
ST. MARY
KOOTENAI
FLATHEAD
SUN, TETON, MARIAS
MILK
MAIN STEM MISSOURI
NORTH DAKOTA
SMITH, JUDITH, MUSSELSHELL
LOWER YELLOWSTONE
SO. DAKOTA
WYOMING
IDAHO
UPPER CLARK FORK
JEFFERSON
MADISON
UPPER YELLOWSTONE
SNOW WATER EQUIVALENT
EXTREMELY ABOVE AVERAGE (OVER 150%)
MUCH ABOVE AVERAGE (130–150%)
ABOVE AVERAGE (110–130%)
NEAR AVERAGE (90–110%)
BELOW AVERAGE (70–90%)
MUCH BELOW AVERAGE (50–70%)
EXTREMELY BELOW AVERAGE (BELOW 50%)
NO MOUNTAIN SURVEY
0 25 50 75 100 STATUTE MILES
0 50 100 150 KILOMETERS
Albers Equal Area Projection
Approx Scale: 1:4,300,000
SOURCE
Information provided by NRCS Snow Survey Personnel
CURRENT AS OF
JUNE 1, 1998
Note:
Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.
NRCS STATE OFFICE, BOZEMAN, MT. GRASS/MAPGEN 4.1/mtnsnow.698
JUNE 1998


U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
STREAM FLOW PROSPECTS FOR MONTANA
Spring and Summer Period
CANADA
ST. MARYS
MILK
KOOTENAI
SUN, TETON, MARIAS
NORTH DAKOTA
FLATHEAD
MAIN STEM MISSOURI
LOWER CLARK FORK
SMITH, JUDITH, MUSSELSHELL
IDAHO
UPPER CLARK FORK
BITTERROOT
LOWER YELLOWSTONE
SO. DAKOTA
GALLATIN
JEFFERSON
UPPER YELLOWSTONE
MADISON
N
0 25 50 75 100 STATUTE MILES
0 50 100 150 KILOMETERS
Albers Equal Area Projection
Approx Scale: 1:4,300,000
SOURCE:
Information provided by NRCS Snow Survey Personnel.
CURRENT AS OF JUNE 1, 1998
Note:
Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.
STREAM FLOW PROSPECTS
EXTREMELY ABOVE AVERAGE (OVER 150%)
MUCH ABOVE AVERAGE (130–150%)
ABOVE AVERAGE (110–130%)
NEAR AVERAGE (90–110%)
BELOW AVERAGE (70–90%)
MUCH BELOW AVERAGE (50–70%)
EXTREMELY BELOW AVERAGE (BELOW 50%)
NOT FORECAST
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JUNE 1998

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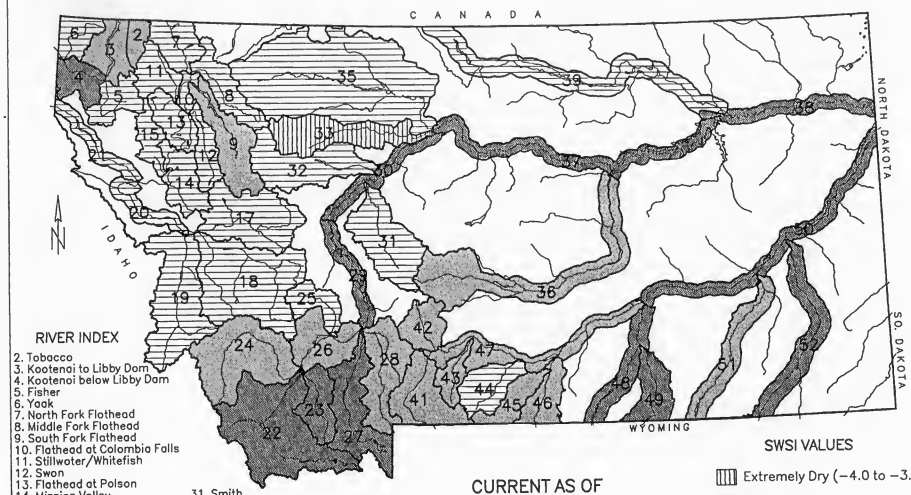
NATURAL RESOURCES CONSERVATION SERVICE

SURFACE WATER SUPPLY INDEX (SWSI) VALUES



RIVER INDEX

2. Tobacco
3. Kootenai to Libby Dam
4. Kootenai below Libby Dam
5. Fisher
6. Yaak
7. North Fork Flathead
8. Middle Fork Flathead
9. South Fork Flathead
10. Flathead at Colombia Falls
11. Stillwater/Whitefish
12. Swan
13. Flathead at Polson
14. Mission Valley
15. Little Bitterroot
17. Blackfoot
18. Clark Fork above Missoula
19. Bitterroot
20. Clark Fork below Bitterroot
21. Clark Fork below Flathead
22. Beaverhead
23. Ruby
24. Big Hole
25. Boulder (Jefferson)
26. Jefferson
27. Madison
28. Gallatin
29. Missouri above Canyon F.
30. Missouri below Canyon F.
31. Smith
32. Sun
33. Teton
35. Marias
36. Musselshell
37. Missouri above Ft Peck
38. Missouri below Ft Peck
39. Milk
41. Yellowstone above Livingston
42. Shields
43. Boulder (Yellowstone)
44. Stillwater
45. Rock/Red Lodge
46. Clark's Fork
47. Yellowstone above Bighorn
48. Bighorn below Bighorn Lake
49. Little Bighorn
50. Yellowstone below Bighorn
51. Tongue
52. Powder

CURRENT AS OF JUNE 1, 1998

Note:
Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.

0 25 50 75 STATUTE MILES

0 50 100 KILOMETERS

Albers Equal Area Projection

SWSI VALUES

- Extremely Dry (−4.0 to −3.0)
- Moderately Dry (−2.9 to −2.0)
- Slightly Dry (−1.9 to −1.0)
- Near Average (−.9 to .9)
- Slightly Wet (1.0 to 1.9)
- Moderately Wet (2.0 to 2.9)
- Extremely Wet (3.0 to 4.0)
- SWSI Not Applicable

JUNE 1998

NRCS STATE OFFICE, BOZEMAN, MT. GRASS/MAPGEN 4.1/swsi.698.bw

BASIN SUMMARY OF SNOW COURSE DATA

JUNE 1998

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
MONTANA						
ALBRO LAKE PILLOW	8300	6/01/98	---	5.5	16.9	--
BADGER PASS PILLOW	6900	6/01/98	---	.0	36.2	20.9
BANFIELD MTN PILLOW	5600	6/01/98	---	.0	8.5	2.9
BARKER LAKES PILLOW	8250	6/01/98	---	5.4	12.0	10.0
BASIN CREEK PILLOW	7180	6/01/98	---	.0	4.7	4.7
BEAGLE SPGS PILLOW	8850	6/01/98	---	.0	.0	.9
BEAVER CREEK PILLOW	7850	6/01/98	---	9.5	12.2	9.7
BISSON CREEK PILLOW	4920	6/01/98	---	.0	.0	.0
BLACK BEAR PILLOW	7950	6/01/98	---	30.4	50.2	27.5
BLACK PINE PILLOW	7100	6/01/98	---	.0	.0	2.4
BLOODY DICK PILLOW	7550	6/01/98	---	.0	.0	1.7
BOULDER MTN PILLOW	7950	6/01/98	---	.2	10.7	10.5
BOX CANYON PILLOW	6700	6/01/98	---	.0	.0	.0
BOXELDER CREEK	5100	5/30/98	0	.0	.0	.0
BRACKETT CR PILLOW	7320	6/01/98	---	.8	9.5	12.6
CALVERT CR PILLOW	6430	6/01/98	---	.0	.0	.0
CARROT BASIN PILLOW	9000	6/01/98	---	22.2	32.7	24.7
CHICKEN CREEK	4060	5/30/98	0	.0	.0	.0
CLOVER MDW PILLOW	8800	6/01/98	---	10.6	13.3	10.6
COLE CREEK PILLOW	7850	6/01/98	---	.0	8.7	12.9
COMBINATION PILLOW	5600	6/01/98	---	.0	.0	.0
COPPER BOTTOM PILLOW	5200	6/01/98	---	.0	.0	.0
COPPER CAMP PILLOW	6950	6/01/98	---	.0	18.9	12.7
CRYSTAL LAKE PILLOW	6050	6/01/98	---	.0	.0	1.0
DALY CREEK PILLOW	5780	6/01/98	---	.0	.0	.0
DARKHORSE LK. PILLOW	8700	6/01/98	---	26.6	38.4	28.5
DEADMAN CR PILLOW	6450	6/01/98	---	.0	.0	.0
DISCOVERY BASIN	7050	5/27/98	0	.0	7.0	4.8
DIVIDE PILLOW	7800	6/01/98	---	4.6	.0	1.7
DUPUYER CREEK PILLOW	5750	6/01/98	---	.0	.0	.0
EMERY CREEK PILLOW	4350	6/01/98	---	.0	.0	.0
FISHER CREEK PILLOW	9100	6/01/98	---	21.3	44.5	31.7
FLATTOP MTN PILLOW	6300	6/01/98	---	21.1	53.5	34.4
FROHNER MDWS PILLOW	6480	6/01/98	---	.0	.0	1.2
GARVER CREEK PILLOW	4250	6/01/98	---	.0	.0	.0
GRAVE CRK PILLOW	4300	6/01/98	---	.0	.0	.0
HAND CREEK PILLOW	5030	6/01/98	---	.0	.0	.0
HAWKINS LAKE PILLOW	6450	6/01/98	---	.0	20.9	19.5
HELL ROARING DIVIDE	5770	5/29/98	3	1.4	23.1	11.2
HERRIG JUNCTION	4850	5/30/98	0	.0	21.9	2.4
HOODOO BASIN PILLOW	6050	6/01/98	---	17.3	58.9	29.2
KIWANIS CAMP	3720	5/30/98	0	.0	--	--
KRAFT CREEK PILLOW	4750	6/01/98	---	.0	.0	.0
LAKEVIEW RDG. PILLOW	7400	6/01/98	---	.0	.0	.0
LEMHI RIDGE PILLOW	8100	6/01/98	---	1.6	.0	2.8
LICK CREEK PILLOW	6860	6/01/98	---	.0	.0	.6
LONE MOUNTAIN PILLOW	8880	6/01/98	---	9.9	15.8	13.0

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
LOWER TWIN PILLOW	7900	6/01/98	---	10.3	18.8	13.5
LUBRECHT PILLOW	4680	6/01/98	---	.0	.0	.0
MADISON PLT PILLOW	7750	6/01/98	---	7.7	14.7	7.5
MANY GLACIER PILLOW	4900	6/01/98	---	.0	.0	.0
MAYNARD CREEK	6210	5/28/98	0	.0	8.2	3.2
MONUMENT PK PILLOW	8850	6/01/98	---	10.3	23.3	16.2
MOSS PEAK PILLOW	6780	6/01/98	---	16.0	52.8	30.1
MT LOCKHART PILLOW	6400	6/01/98	---	.0	14.1	10.5
MULE CREEK PILLOW	8300	6/01/98	---	11.6	15.9	9.0
NEVADA CREEK PILLOW	6480	6/01/98	---	.0	3.7	3.8
NEVADA RIDGE PILLOW	7020	6/01/98	---	.0	5.1	.6
NEZ PERCE CMP PILLOW	5650	6/01/98	---	.0	.9	.2
NOISY BASIN PILLOW	6040	6/01/98	---	20.1	48.1	30.2
N.F. ELK CR PILLOW	6250	6/01/98	---	.0	.3	.9
NF JOCKO PILLOW	6330	6/01/98	---	8.4	46.1	27.3
N.E. ENTRANCE PILLOW	7350	6/01/98	---	.0	.0	.2
PETERSON MEADOWS	7200	5/27/98	2	.6	5.3	1.2
PICKFOOT CRK PILLOW	6650	6/01/98	---	.0	.0	.0
PIKE CREEK PILLOW	5930	6/01/98	---	.0	11.4	7.9
PLACER BASIN PILLOW	8830	6/01/98	---	1.0	14.1	16.2
PORCUPINE PILLOW	6500	6/01/98	---	.0	.0	.0
RED MOUNTAIN	6000	5/28/98	0	.0	7.5	4.2
REVAIS CREEK	4800	5/27/98	0	.0	.0	.0
ROCKER PEAK PILLOW	8000	6/01/98	---	7.8	14.4	13.2
ROCKY BOY PILLOW	4700	6/01/98	---	.0	.0	.0
ROCKY BOY	4700	5/30/98	0	.0	.0	.3
SADDLE MTN PILLOW	7900	6/01/98	---	13.6	16.6	17.5
SHORT CREEK PILLOW	7000	6/01/98	---	.0	.0	.0
SHOWER FALLS PILLOW	8100	6/01/98	---	9.4	30.2	23.3
SILVER RUN PILLOW	6630	6/01/98	---	.0	.0	.0
SKALKAHO PILLOW	7260	6/01/98	---	9.7	27.5	15.8
S.F. SHIELDS PILLOW	8100	6/01/98	---	1.1	25.3	13.3
SPUR PARK PILLOW	8100	6/01/98	---	6.2	18.9	14.8
SQUAW PEAK PILLOW	6150	6/01/98	---	.0	6.0	5.0
STAHL PEAK PILLOW	6030	6/01/98	---	22.2	36.0	27.3
STRYKER BASIN	6180	5/30/98	14	6.6	34.0	20.6
STUART MOUNTAIN	7400	5/29/98	20	9.0	36.3	--
STUART MOUNTAIN PILL	7400	6/01/98	---	11.7	37.4	19.8
SUCKER CREEK	3960	5/30/98	0	.0	.0	.2
TAYLOR ROAD	4080	5/30/98	0	.0	.0	.4
TEPEE CREEK PILLOW	8000	6/01/98	---	9.9	3.7	5.3
TIZER BASIN PILLOW	6840	6/01/98	---	.0	.0	2.0
TV MOUNTAIN	6800	5/29/98	0	.0	13.0	--
TWELVEMILE PILLOW	5600	6/01/98	---	.0	.0	.6
TWIN LAKES PILLOW	6400	6/01/98	---	6.5	36.1	25.8
WALDRON PILLOW	5600	6/01/98	---	.0	.0	.0
WARM SPRINGS PILLOW	7800	6/01/98	---	14.3	24.9	19.6
WEST YELLOWSTONE	6700	6/01/98	0	.0	.0	.0
WHISKEY CREEK PILLOW	6800	6/01/98	---	.2	.4	1.2
WHITE MILL PILLOW	8700	6/01/98	---	14.7	28.9	19.4
WOOD CREEK PILLOW	5960	6/01/98	---	.0	.0	.1

Montana Water Supply Outlook Report as of June 1, 1998

Temperatures and precipitation have been variable across Montana during May. West of the Divide, average temperature departures were generally one to two degrees above normal while east of the Divide average temperatures in the southwest and central areas were one degree below normal to one degree above normal; in central and northcentral areas were near normal to one degree above normal; and the eastern plains were generally two degrees above normal. West of the Divide, May precipitation departure from normal ranged from near normal to nearly three inches above normal in the northwest while east of the Divide most areas were generally one inch to more than two inches below normal.

Snowpack

As of June 1, mountain snow water content in the mountainous areas of Montana were 52 percent of average and 35 percent of last year. Remaining snowpack is highly variable across the state with the Madison River Basin average and the Sun, Teton, and Marias Basins melted out and tied with other record low years of 1987, 1992, and 1993.

West of the Continental Divide, snowpacks were 41 percent of average and 24 percent of last year. East of the Continental Divide, snowpacks were 57 percent of average and 45 percent of last year.

RIVER BASIN	% OF AVERAGE	% OF LAST YEAR
COLUMBIA	41	24
KOOTENAI	39	26
FLATHEAD	45	26
UPPER CLARK FORK	42	28
BITTERROOT	50	26
LOWER CLARK FORK	45	19
MISSOURI	64	48
MISSOURI HEADWATERS	82	60
JEFFERSON	86	68
MADISON	98	68
GALLATIN	59	47
MISSOURI MAINSTEM	17	14
HEADWATERS MAINSTEM	26	24
SMITH-JUDITH-MUSSELSHELL	22	21
SUN-TETON-MARIAS	0	0
ST. MARY	61	39
YELLOWSTONE (MONTANA & WYOMING)	48	40
UPPER YELLOWSTONE	47	36
LOWER YELLOWSTONE (WYOMING)	48	46
WIND	57	62
SHOSHONE	54	47
BIGHORN	47	45
TONGUE	17	16
POWDER	5	4

Precipitation

The combined mountain and valley precipitation for May across Montana was 99 percent of average and 107 percent of last year and water year mountain precipitation was 87 percent of average and 67 percent of last year.

West of the Continental Divide, mountain and valley precipitation during May was 141 percent of average and 152 percent of last year and east of the Continental Divide was 79 percent of average and 86 percent of last year. Water year precipitation west of the Continental Divide was 89 percent of average and 66 percent of last year and east of the Continental Divide was 85 percent of average and 68 percent of last year.

RIVER BASIN	MAY % OF AVERAGE	WATER YEAR % OF AVERAGE
COLUMBIA	141	89
KOOTENAI	168	91
FLATHEAD	145	89
UPPER CLARK FORK	113	86
BITTERROOT	132	94
LOWER CLARK FORK	197	90
MISSOURI	90	87
JEFFERSON	109	98
MADISON	110	94
GALLATIN	62	82
MISSOURI MAINSTEM	87	82
SMITH-JUDITH-MUSSELSHELL	82	81
SUN-TETON-MARIAS	93	73
Milk	58	79
ST. MARY	107	83
YELLOWSTONE	48	86
UPPER YELLOWSTONE	45	79
LOWER YELLOWSTONE (WY & MT)	54	95

Reservoirs

Major reservoir storage across the state was 123 percent of average and 119 percent of last year.

West of the Continental Divide, reservoirs were 133 percent of average and 129 percent of last year. East of the Continental Divide, reservoirs were 114 percent of average and 107 percent of last year.

RIVER BASIN	% OF AVERAGE	% OF LAST YEAR
COLUMBIA	133	129
KOOTENAI	154	146
FLATHEAD	119	119
UPPER CLARK FORK	110	106
BITTERROOT	121	98
LOWER CLARK FORK	119	102
MISSOURI	108	103
JEFFERSON	110	120
MADISON	112	107
GALLATIN	146	138
MISSOURI MAINSTEM	107	110
SMITH-JUDITH-MUSSELSHELL	113	102
SUN-TETON-MARIAS	114	94
MILK	73	63
ST. MARY	136	118
YELLOWSTONE	98	100
UPPER YELLOWSTONE	103	85
LOWER YELLOWSTONE	98	101

Streamflow

Seasonal volume streamflow forecasts across Montana are 58 percent of average and 45 percent of last years forecasts.

West of the Continental Divide, streamflows are forecast to be 57 percent of average and 40 percent of last years forecasts. East of the Continental Divide, streamflows are forecast to be 58 percent of average and 46 percent of last years forecasts.

RIVER BASIN	JUNE-JULY FORECASTS % OF AVERAGE	JUNE-JULY FORECASTS % OF LAST YEAR
COLUMBIA	57	40
KOOTENAI	55	41
FLATHEAD	58	43
UPPER CLARK FORK	54	38
BITTERROOT	60	42
LOWER CLARK FORK	56	38
MISSOURI	65	48
JEFFERSON	76	56
MADISON	76	52
GALLATIN	73	55
MISSOURI MAINSTEM	62	46
SMITH-JUDITH-MUSSELSHELL	55	38
SUN-TETON-MARIAS	49	38
MILK	31	28
ST. MARY	59	50
YELLOWSTONE	76	56
UPPER YELLOWSTONE	78	56
LOWER YELLOWSTONE	74	57

*NOTE: The **FORECAST AS % OF LAST YEAR** column above, is this years forecast as a percent of last years forecast, not of what actually occurred.*

Surface Water Supply Index

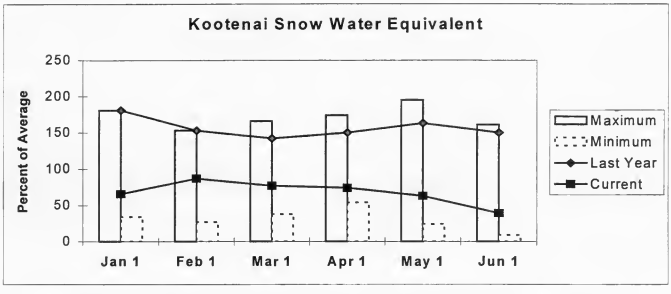
The Surface Water Supply Index (SWSI) is an indicator of surface water supply conditions for the spring and summer months. Water users that rely on mountain precipitation can use the index to evaluate seasonal surface water supplies. The SWSI accounts for mountain snowpack, mountain precipitation, streamflow, reservoir storage, and soil moisture.

SWSI RATING	SURFACE WATER CONDITION
+3.0 to +4.0	Extremely Wet
+2.0 to +3.0	Moderately Wet
+1.0 to +2.0	Slightly Wet
-1.0 to +1.0	Near Average
-1.0 to -2.0	Slightly Dry
-2.0 to -3.0	Moderately Dry
-3.0 to -4.0	Extremely Dry

SWSI	Basin
-1.3	Kootenai River at Ft. Steele Canada
-1.2	Tobacco River
-0.6	Kootenai Ft. Steele to Libby Dam
+0.8	Kootenai River below Libby Dam
-2.5	Fisher River
-2.4	Yaak River
-2.7	North Fork Flathead River
-3.1	Middle FORK Flathead River
-1.6	South Fork Flathead River
-2.4	Flathead River at Columbia Falls
-2.2	Stillwater/Whitefish Rivers
-3.0	Swan River
-2.0	Flathead River at Polson
-0.8	Mission Valley
+0.8	Little Bitterroot River
-2.2	Clark Fork River above Rock Creek
-3.2	Blackfoot River
-2.8	Clark Fork River above Missoula
-1.9	Bitterroot River
-2.5	Clark Fork River below Bitterroot River
-2.2	Clark Fork River below Flathead River
+1.2	Beaverhead River
+0.3	Ruby River
-1.0	Big Hole River
-2.7	Boulder River (Jefferson)
-0.5	Jefferson River
-0.3	Madison River
-2.3	Gallatin River
-0.8	Missouri River above Canyon Ferry
-0.2	Missouri River below Canyon Ferry
-2.4	Smith River
-2.6	Sun River
-3.4	Teton River
-3.0	Birch/Dupuyer Creeks
-3.4	Marias River
-1.2	Musselshell River
-0.4	Missouri River above Ft. Peck
-0.3	Missouri River below Ft. Peck
-2.9	Milk River
-2.2	Yellowstone River above Livingston
-3.6	Shields River
-3.5	Boulder River (Yellowstone)
-3.2	Stillwater River
-3.0	Rock/Red Lodge Creeks
-3.1	Clarks Fork River
-2.9	Yellowstone River above Bighorn River
-1.4	Bighorn River below Bighorn Lake
-3.1	Little Bighorn River
-2.2	Yellowstone River below Bighorn River
-3.4	Tongue River
-2.3	Powder River

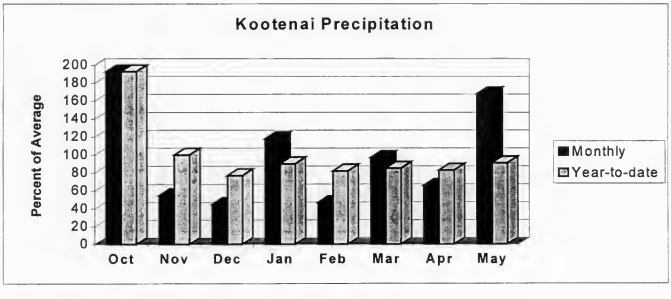
Kootenai River Basin in Montana

Snowpack conditions in the Kootenai River Basin in Montana were extremely below average and ninth lowest of record. In the Kootenai River Basin in British Columbia, Canada, were extremely below average. Snow water content for the Kootenai in Montana was 39 percent of average and 26 percent of last year and in British Columbia, Canada, was 21 percent of average and 15 percent of last year.



January maximum swe was established in 1997 and minimum was in 1977; February maximum swe was in 1997 and minimum swe was in 1977; March maximum swe was in 1972 and minimum swe was in 1977; April maximum swe was in 1974 and minimum swe was in 1977; May maximum swe was in 1974 and minimum swe was in 1977; and June maximum swe was in 1974 and minimum swe was in 1992. Average is for the period 1961 through 1990.

Mountain precipitation during May was 158 percent of average and 162 percent of last year and the valley precipitation was 336 percent of average and 364 percent of last year. Water year precipitation, beginning October 1, 1997, was 91 percent of average and 67 percent of last year.



Lake Koocanusa storage, on the last day of May, was 154 percent of average and 146 percent of last year.

Seasonal streamflows, for the period June through July, are forecast to be 55 percent of average and 41 percent of last years forecasts.

Snowmelt peak flows for the Fisher and Yaak Rivers occurred on May 4. The Fisher near Libby snowmelt peak flow was 53 percent of average and the Yaak near Troy was 71 percent of average.

Surface Water Supply Index (SWSI) was -1.3 for the Kootenai River at Ft. Steele (Kootenai in Canada); +1.2 for the Tobacco River; -0.6 for the Kootenai Ft. Steele to Libby Dam; +0.8 for the Kootenai River below Libby Dam; -2.5 for the Fisher River; and -2.4 for the Yaak River.

KOOTENAI RIVER BASIN in Montana
Streamflow Forecasts - June 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter ======>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
TOBACCO RIVER nr Eureka	JUN-JUL	26	36	43	69	49	59	62
	JUN-SEP	34	46	54	71	62	74	76
FISHER RIVER near Libby	JUN-JUL	31	39	45	64	51	59	70
	JUN-SEP	42	52	58	68	65	74	86
YAAK RIVER near Troy	JUN-JUL	39	56	67	44	78	95	151
	JUN-SEP	56	74	86	49	98	116	174

KOOTENAI RIVER BASIN in Montana
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
LAKE KOOCANUSA	5748.0	4906.0	3351.0	3186.0

KOOTENAI RIVER BASIN in Montana
Watershed Snowpack Analysis - June 1, 1998

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
KOOTENAY in CANADA	7	15	21
KOOTENAI MAINTSTEM	3	18	31
TOBACCO	2	62	81
FISHER	1	0	0
YAAK	3	0	0
KOOTENAI in MONTANA	8	26	39
ab BONNERS FERRY	15	21	30

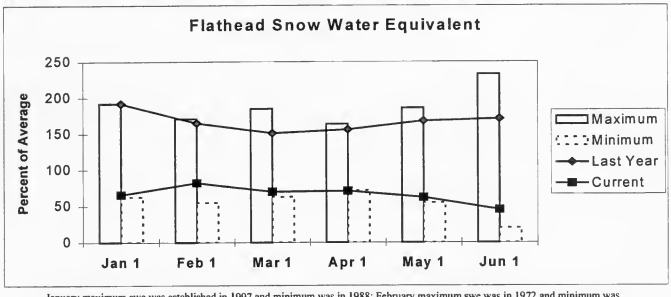
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

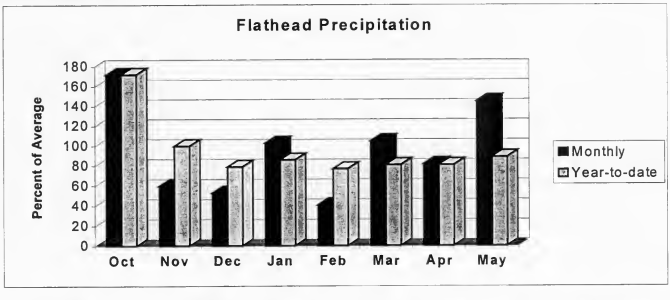
Flathead River Basin

Snowpack conditions for the Flathead River Basin in Montana were extremely below average and fourth lowest of record. Snow water content for the Flathead in Montana was 45 percent of average and 26 percent of last year.



January maximum swe was established in 1997 and minimum was in 1988; February maximum swe was in 1972 and minimum was in 1977; March maximum swe was in 1972 and minimum was in 1977; April maximum swe was in 1972 and minimum was in 1992; May maximum swe was in 1972 and minimum was in 1992; and June maximum swe was in 1974 and minimum was in 1992. Average is for the period 1961 through 1990.

Mountain precipitation during May was 141 percent of average and 159 percent of last year and valley precipitation was 172 percent of average and 153 percent of last year. Water year precipitation, beginning October 1, 1997, was 89 percent of average and 65 percent of last year.



Reservoir storage, on the last day of May, was 119 percent of average and 119 percent of last year. Combined Camas reservoir storage was 129 percent of average and 89 percent of last year; the combined Mission Valley reservoir storage was 126 percent of average and 125 percent of last year; Hungry Horse storage was 121 percent of average and 129 percent of last year; and Flathead Lake storage was 113 percent of average and 103 percent of last year.

Seasonal streamflow, for the period June through July, are forecast to be 58 percent of average and 43 percent of last years forecasts.

Snowmelt peak flow for the North Fork Flathead River near Columbia Falls occurred May 9 and was 65 percent of average; the Middle Fork Flathead River near West Glacier occurred on May 4 and was 53 percent of average; and the Swan River near Bigfork peaked on May 10 and was 62 percent of average.

Surface Water Supply Index (SWSI) was -2.7 for the North Fork Flathead River; -3.1 for the Middle Fork Flathead River; -1.6 for the South Fork Flathead River; -2.4 for the Flathead River at Columbia Falls; -2.2 for the Stillwater/Whitefish Rivers; -3.0 for the Swan River; -2.0 for the Flathead River at Polson; -0.8 for the Mission Valley; and +0.8 for the Little Bitterroot River.

FLATHEAD RIVER BASIN

Streamflow Forecasts - June 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
NF FLATHEAD nr Columbia Falls	JUN-JUL	434	500	545	63	590	656	872
	JUN-SEP	559	635	687	66	739	815	1046
MF FLATHEAD nr West Glacier	JUN-JUL	449	491	519	59	547	589	877
	JUN-SEP	543	606	648	63	690	753	1027
HUNGRY HORSE Reservoir Inflow (1,2)	JUN-JUL	303	493	580	57	667	857	1019
	JUN-SEP	382	599	698	61	797	1014	1153
FLATHEAD at Columbia Falls (2)	JUN-JUL	1394	1553	1662	59	1771	1930	2840
	JUN-SEP	1733	1936	2074	63	2212	2415	3317
STILLWATER nr Whitefish	JUN-JUL	36	46	53	64	59	69	82
	JUN-SEP	42	57	68	67	79	94	101
WHITEFISH nr Kalispell	JUN-JUL	24	29	33	56	36	42	58
	JUN-SEP	30	37	42	59	47	53	71
SWAN RIVER naar Bigfork	JUN-JUL	149	175	193	60	211	237	321
	JUN-SEP	200	233	256	63	279	312	404
FLATHEAD Lake Inflow (1,2)	JUN-JUL	1429	1756	1905	58	2054	2381	3315
	JUN-SEP	1707	2128	2319	60	2510	2931	3850

FLATHEAD RIVER BASIN

Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
CAMAS (4)	45.2	40.2	45.3	31.1
MISSION VALLEY (8)	100.0	86.9	69.5	68.9
HUNGRY HORSE	3451.0	3221.0	2494.0	2659.0
FLATHEAD LAKE	1791.0	1678.0	1627.0	1480.0

FLATHEAD RIVER BASIN

Watershed Snowpack Analysis - June 1, 1998

Watershed	Number of Data Sites	This Year as % of Last Yr	Averaga
NF FLATHEAD in CANADA	1	0	0
NF FLATHEAD in MT.	6	33	59
MIDDLE FORK FLATHEAD	4	21	33
SOUTH FORK FLATHEAD	2	42	67
STILLWATER-WHITEFISH	5	10	23
SWAN	4	30	51
MISSION VALLEY	2	30	53
LITTLE BITTERROOT-ASHLEY	0	0	0
JOCKO	4	22	39
FLATHEAD in MONTANA	20	26	45
FLATHEAD BASIN	21	25	44

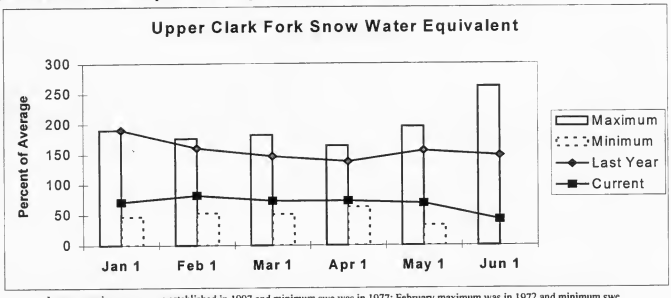
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will excaad the volumes in tha tabla.

The averaga is computed for the 1961-1990 basa period.

(1) - The valuas listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% axceadance levels.
(2) - The value is natural volume - actual volume may ba affectad by upstream watar management.

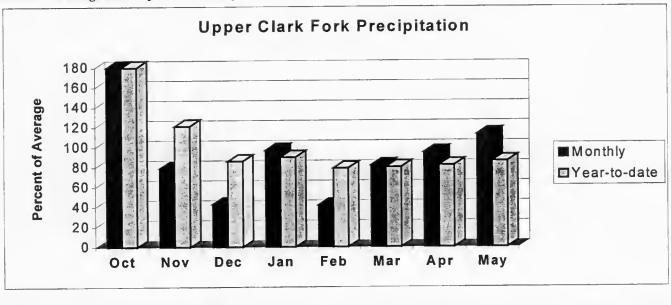
Upper Clark Fork River Basin

Snowpack conditions in the Upper Clark Fork River Basin were extremely below average and fifth lowest of record. Snow water content was 42 percent of average and 28 percent of last year.



January maximum swe was established in 1997 and minimum swe was in 1977; February maximum was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum swe was in 1977; April maximum swe was in 1972 and minimum was in 1994; May maximum swe was in 1972 and minimum swe was in 1977; and June maximum swe was in 1975 and minimum swe was in 1987. Average is for the period 1961 through 1990.

Mountain precipitation during May was 108 percent of average and 119 percent of last year and valley precipitation was 152 percent of average and 117 percent of last year. Water year precipitation, beginning October 1, 1997, was 86 percent of average and 67 percent of last year.



Reservoir storage, on the last day of May, was 110 percent of average and 106 percent of last year. Georgetown Lake storage was 110 percent of average and 108 percent of last year; Lower Willow Creek was 114 percent of average and 100 percent of last year; and Nevada Creek storage was 109 percent of average and 105 percent of last year.

Seasonal streamflows, for the period June through July, are forecast to be 54 percent of average and 38 percent of last years forecasts.

Snowmelt peak flow at the Blackfoot near Bonner occurred on May 6 and was 45 percent of average; and the Clark Fork above Missoula occurred on May 9 and was 47 percent of average.

Surface Water Supply Index (SWSI) was -2.2 for the Clark Fork River above Rock Creek; -3.2 for the Blackfoot River; and -2.8 for the Clark Fork River above Missoula.

UPPER CLARK FORK RIVER BASIN
Streamflow Forecasts - June 1, 1998

Forecast Point	Forecast Period	<<------ Drier ------ Future Conditions ------ Wetter ------>> 90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
WARM SPRINGS CK at Anaconda (2)	JUN-JUL	9.0	13.8	17.0	65	20	25	26
	JUN-SEP	14.4	20	24	69	28	34	35
LITTLE BLACKFOOT nr Garrison	JUN-JUL	0.7	8.9	16.7	49	25	36	34
	JUN-SEP	0.2	13.6	23	55	32	45	41
FLINT CK nr Southern Cross (2)	JUN-JUL	0.25	2.13	3.40	43	4.67	6.55	8.00
	JUN-SEP	0.4	3.1	4.9	46	6.7	9.4	10.6
FLINT CK bl Boulder Ck	JUN-JUL	8.0	16.4	22	65	28	36	34
	JUN-SEP	15.7	27	34	69	42	53	50
LOWER WILLOW CK RES Inflow	JUN-JUL	0.00	0.29	1.00	22	1.71	2.76	4.60
	JUN-SEP	0.11	0.77	1.60	29	2.43	3.64	5.50
MF ROCK CREEK nr Philipsburg	JUN-JUL	17.5	26	32	76	38	47	42
	JUN-SEP	23	32	39	79	45	55	49
ROCK CREEK near Clinton	JUN-JUL	28	52	68	41	84	108	165
	JUN-SEP	53	81	100	50	119	147	202
NEVADA CREEK near Finn	JUN-JUL	1.93	3.26	4.17	56	5.08	6.41	7.50
	JUN-SEP	2.92	4.44	5.47	60	6.50	8.02	9.20
CLEARWATER nr Clearwater	JUN-JUL	30	41	49	75	57	68	65
	JUN-SEP	33	44	51	69	58	69	74
BLACKFOOT RIVER near Bonner	JUN-JUL	191	225	248	60	271	305	414
	JUN-SEP	256	297	324	64	351	392	505
CLARK FORK ab Milltown	JUN-JUL	70	133	175	52	217	280	339
	JUN-SEP	120	195	245	55	295	370	442
CLARK FORK ab Missoula	JUN-JUL	254	355	423	56	491	592	753
	JUN-SEP	377	491	569	60	647	761	947

UPPER CLARK FORK RIVER BASIN
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
GEORGETOWN LAKE	31.0	29.7	27.6	27.0
LOWER WILLOW CREEK	4.9	5.0	5.0	4.4
NEVADA CREEK	12.6	12.4	11.8	11.4

UPPER CLARK FORK RIVER BASIN
Watershed Snowpack Analysis - June 1, 1998

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
CLARK FORK ab FLINT CRK	6	42	53
FLINT CREEK	4	5	7
ROCK CREEK	2	31	61
CLARK FORK ab BLACKFOOT	10	33	48
BLACKFOOT	8	18	31
UPPER CLARK FORK BASIN	17	28	42

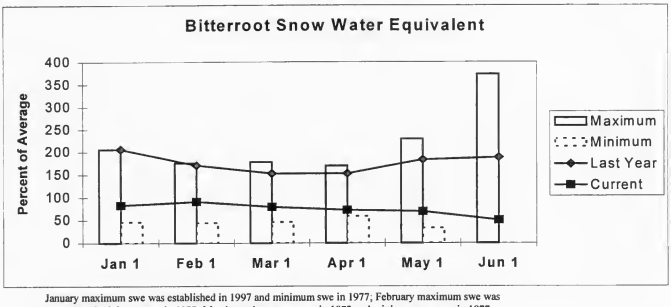
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

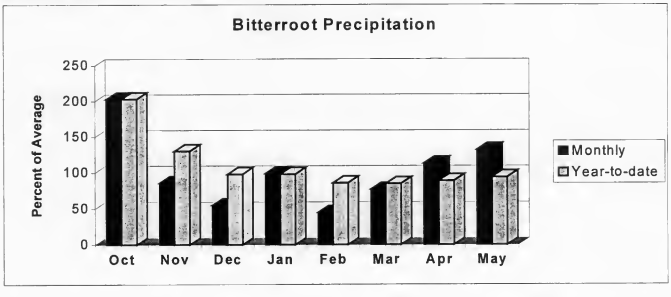
Bitterroot River Basin

Snowpack conditions in the Bitterroot River Basin were extremely below average and sixth lowest of record. Snow water content was 50 percent of average and 26 percent of last year.



January maximum swe was established in 1997 and minimum swe in 1977; February maximum swe was in 1972 and minimum was in 1977; March maximum swe was in 1972 and minimum swe was in 1977; April maximum swe was in 1972 and minimum swe was in 1977; May maximum swe was in 1972 and minimum swe was in 1987; and June maximum swe was 1972 and 1974 and minimum swe was in 1987 and 1992. Average is for the period 1961 through 1990.

Mountain precipitation during May was 130 percent of average and 187 percent of last year and valley precipitation was 136 percent of average and 175 percent of last year. Water year precipitation, beginning October 1, 1997, was 94 percent of average and 67 percent of last year.



Reservoir storage, on the last day of May, was 121 percent of average and 98 percent of last year. Painted Rocks Lake storage was 107 percent of average and 98 percent of last year and Como storage was 136 percent of average and 99 percent of last year.

Seasonal streamflows, for the period June through July, are forecast to be 60 percent of average and 42 percent of last years forecasts.

The snowmelt peak flow for the Bitterroot River near Darby occurred on May 10 and was 69 percent of average.

Surface Water Supply Index (SWSI) was -1.9 for the Bitterroot River.

BITTERROOT RIVER BASIN
Streamflow Forecasts - June 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Probable) (1000AF)	(% AVG.)	======= Wetter =====>> 30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
WF BITTERROOT nr Conner (2)	JUN-JUL	11.8	26	36	48	46	60	75
	JUN-SEP	18.4	35	46	52	57	74	89
BITTERROOT nr Derby	JUN-JUL	117	156	182	70	208	247	262
	JUN-SEP	159	201	229	74	257	299	311
ROCK CK nr Darby (2)	JUN-JUL	16.7	23	27	62	31	37	43
	JUN-SEP	23	29	33	70	37	44	47
SKALKAHO CK nr Hamilton	JUN-JUL	12.1	15.1	17.1	59	19.1	22	29
	JUN-SEP	17.1	21	23	64	26	29	36
BURNT FORK CK nr Stevensville (2)	JUN-JUL	7.3	10.2	12.1	67	14.0	16.9	18.2
	JUN-SEP	10.4	14.0	16.5	72	19.0	23	23
BITTERROOT at Missoula	JUN-JUL	306	377	425	58	473	544	736
	JUN-SEP	385	465	519	61	573	653	853

BITTERROOT RIVER BASIN
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capecity	*** Usable Storage *** This Year	Lest Year	Avg
PAINTED ROCKS LAKE	31.7	32.5	33.3	30.4
COMO	34.9	39.2	39.5	28.9

BITTERROOT RIVER BASIN
Watershed Snowpeck Anelysis - June 1, 1998

Wetershed	Number of Deta Sites	This Year as % of Lest Yr	Averege
WEST FORK BITTERROOT	2	78	77
EAST SIDE BITTERROOT	3	53	70
WEST SIDE BITTERROOT	3	10	25
BITTERROOT BASIN	7	26	50

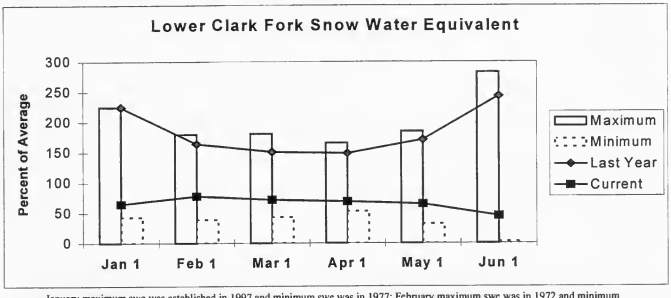
* 90%, 70%, 30%, and 10% chances of exceeding ere the probabilities thet the actual volume will exceed the volumes in the table.

The everege is computed for the 1961-1990 beze period.

(1) - The velues listed under the 10% end 90% Chance of Exceeding ere ectuelly 5% and 95% excesdance levels.
(2) - The velue is neturel volume - ectuel volume mey be effected by upstream weter menegement.

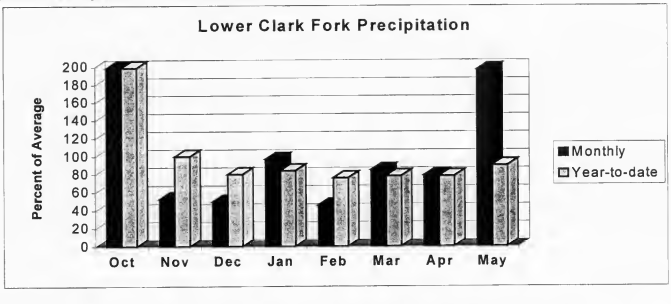
Lower Clark Fork River Basin

Snowpack conditions in the Lower Clark Fork River Basin were extremely below average and seventh lowest of record. Snow water content was 45 percent of average and 19 percent of last year.



January maximum swe was established in 1997 and minimum swe was in 1977; February maximum swe was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum was in 1977; April maximum swe was in 1972 and minimum swe was in 1981; May maximum swe was in 1972 and minimum swe was in 1977; and June maximum swe was in 1974 and minimum swe was in 1977. Average is for the period 1961 through 1990.

Mountain precipitation during May was 168 percent of average and 175 percent of last year and valley precipitation was 254 percent of average and 230 percent of last year. Water year precipitation, beginning October 1, 1997, was 90 percent of average and 63 percent of last year.



Noxon Rapids storage, on the last day of May, was 119 percent of average and 102 percent of last year.

Seasonal streamflows, for the period June through July, are forecast to be 56 percent of average and 38 percent of last year.

The snow melt peak flow at the Clark Fork at St. Regis occurred on May 9 and was 57 percent of average.

Surface Water Supply Index (SWSI) was -2.5 for the Clark Fork River below Bitterroot River and -2.2 for the Clark Fork River below Flathead River.

LOWER CLARK FORK RIVER BASIN
Streamflow Forecasts - June 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ====== Wetter ======>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	50% (Most Probable) (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
CLARK FORK ab Missoula	JUN-JUL	254	355	423	56	491	592	753
	JUN-SEP	377	491	569	60	647	761	947
CLARK FORK bl Missoula	JUN-JUL	593	745	848	57	951	1103	1490
	JUN-SEP	801	972	1088	60	1204	1375	1801
THOMPSON RIVER nr Thompson Falls	JUN-JUL	20	34	43	48	52	66	89
	JUN-SEP	38	54	64	55	74	90	116
PROSPECT CREEK at Thompson Falls	JUN-JUL	8.9	16.8	22	50	27	35	44
	JUN-SEP	15.5	24	29	56	35	43	53

LOWER CLARK FORK RIVER BASIN
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
NOXON RAPIDS	335.0	331.5	323.7	279.6

LOWER CLARK FORK RIVER BASIN
Watershed Snowpack Analysis - June 1, 1998

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
LOWER CLARK FORK	6	19	45
CLARK FORK BASIN	22	23	42
CLARK FK ab PEND ORIELLE	44	25	43
COLUMBIA in MONTANA	49	25	41
COLUMBIA RIVER BASIN	56	23	37

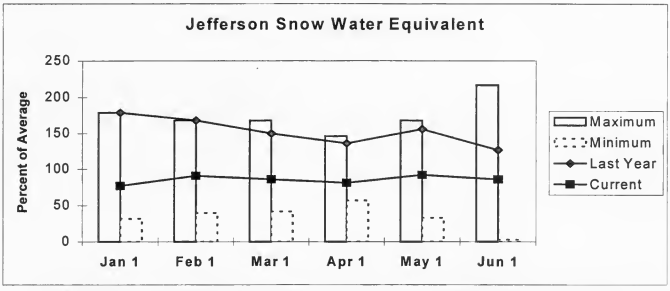
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

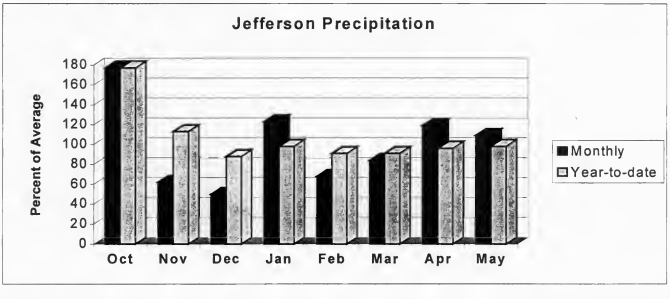
Jefferson River Basin

Snowpack conditions in the Jefferson River Basin were below average and seventh lowest of record. Snow water content was 86 percent of average and 68 percent of last year.



January maximum swe was established in 1997 and minimum swe was in 1977; February maximum swe was in 1997 and minimum was in 1977; March maximum swe was in 1972 and minimum was in 1977; April maximum swe was in 1972 and minimum was in 1977; May maximum swe was in 1975 and minimum swe was in 1977; and June maximum swe was in 1982 and minimum in 1987. Average is for the period 1961 through 1990.

Mountain precipitation during May was 109 percent of average and 148 percent of last year and valley precipitation was 108 percent of average and 107 percent of last year. Water year precipitation, beginning October 1, 1997, was 98 percent of average and 79 percent of last year.



Reservoir storage, on the last day of May, was 110 percent of average and 120 percent of last year. Lima storage was 118 percent of average and 137 percent of last year; Clark Canyon storage was 108 percent of average and 119 percent of last year; and Ruby River storage was 103 percent of average and 101 percent of last year.

Seasonal streamflows, for the period June through July, are forecast to be 76 percent of average and 56 percent of last years forecasts.

The snowmelt peak flow for the Big Hole River near Melrose occurred on May 10 and was 61 percent of average.

Surface Water Supply Index (SWSI) was -0.5 for the Jefferson River; +1.2 for the Beaverhead River; +0.3 for the Ruby River; -1.0 for the Big Hole River; and -2.7 for the Boulder River.

JEFFERSON RIVER BASIN
Streamflow Forecasts - June 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Chance Of Exceeding *		Future Conditions 50% (Most Probable)		======= Wetter =====>> 30%	10%	30-Yr Avg.
		90% (1000AF)	70% (1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
RED ROCK RIVER near Monida (2)	JUN-JUL	11.5	21	27	69	33	43	39
	JUN-SEP	10.5	23	32	68	41	54	47
BEAVERHEAD RIVER near Grant (2)	JUN-JUL	14.9	30	40	77	50	65	52
	JUN-SEP	3.8	34	60	80	87	126	75
BEAVERHEAD RIVER at Barretts (2)	JUN-JUL	29	45	56	77	67	83	73
	JUN-SEP	42	66	83	80	100	124	104
RUBY RIVER near Aldar	JUN-JUL	17.0	29	37	82	45	57	45
	JUN-SEP	26	41	52	85	63	78	61
BIG HOLE RIVER near Melrosa	JUN-JUL	209	248	275	79	302	341	349
	JUN-SEP	238	284	315	78	346	392	406
BOULDER RIVER near Boulder	JUN-JUL	17.0	25	30	75	35	43	40
	JUN-SEP	18.1	28	35	76	42	52	46
WILLOW CREEK near Harrison	JUN-JUL	2.2	5.5	7.8	72	10.1	13.4	10.8
	JUN-SEP	1.4	6.2	9.4	72	12.6	17.4	13.0
JEFFERSON RIVER near Thraa Forks (2)	JUN-JUL	203	282	335	73	388	467	459
	JUN-SEP	217	326	400	73	474	583	551

JEFFERSON RIVER BASIN
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
LIMA	84.0	75.5	55.2	64.2
CLARK CANYON	255.6	178.7	149.6	165.3
RUBY RIVER	38.8	38.9	38.5	37.9

JEFFERSON RIVER BASIN
Watershed Snowpack Analysis - June 1, 1998

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
BEAVERHEAD	8	81	112
RUBY	4	79	99
BIGHOLE	8	62	80
BOULDER	3	41	41
JEFFERSON RIVER BASIN	18	68	86

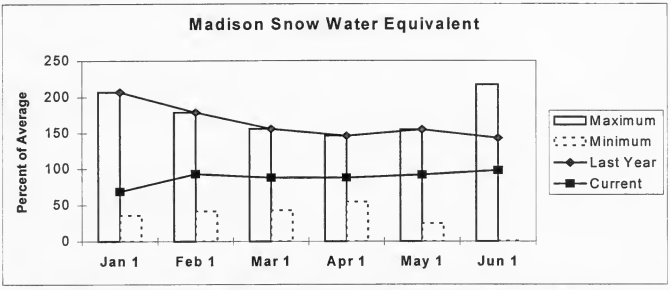
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

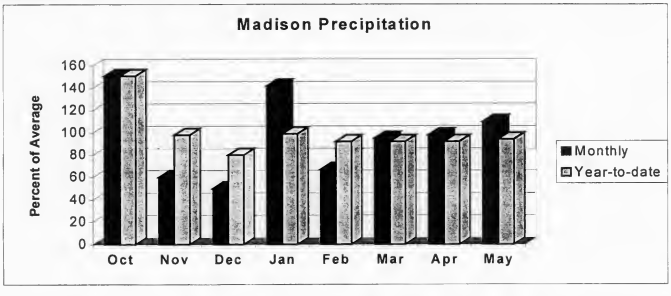
Madison River Basin

Snowpack conditions in the Madison River Basin were average. Snow water content was 98 percent of average and 68 percent of last year.



January maximum swe was established in 1997 and minimum swe was in 1977; February maximum swe was in 1997 and minimum was in 1977; March maximum swe was in 1997 and minimum was in 1977; April maximum swe was in 1997 and minimum was in 1977; May maximum swe was in 1997 and minimum swe was in 1977; and June maximum swe was in 1995 and minimum in 1987. Average is for the period 1961 through 1990.

Mountain and valley precipitation was 114 percent of average and 158 percent of last year. Water year precipitation, beginning October 1, 1997, was 94 percent of average and 71 percent of last year.



Reservoir storage, on the last day of May, was 112 percent of average and 107 percent of last year. Ennis Lake storage was 102 percent of average and 112 percent of last year and Hebgen Lake storage was 113 percent of average and 106 percent of last year.

Seasonal streamflows, for the period June through July, are forecast to be 76 percent of average and 52 percent of last years forecasts.

The snowmelt peak flow into Hebgen Reservoir occurred on May 11 and was 101 percent of average.

Surface Water Supply Index (SWSI) was -0.3 for the Madison River.

MADISON RIVER BASIN
Streamflow Forecasts - June 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ====== Wetter ======>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
MADISON RIVER near Grayling (2)	JUN-JUL	118	134	145	73	156	172	200
	JUN-SEP	191	214	230	75	246	269	307
MADISON RIVER near McAllister (2)	JUN-JUL	236	267	287	78	307	338	369
	JUN-SEP	378	416	442	82	468	506	538

MADISON RIVER BASIN
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
ENNIS LAKE	41.0	36.6	32.8	35.8
HEBGEN LAKE	377.5	351.6	330.5	309.8

MADISON RIVER BASIN
Watershed Snowpack Analysis - June 1, 1998

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
MADISON abv HEBGEN LAKE	4	59	106
MADISON blw HEBGEN LAKE	6	75	94
MADISON RIVER BASIN	10	68	98

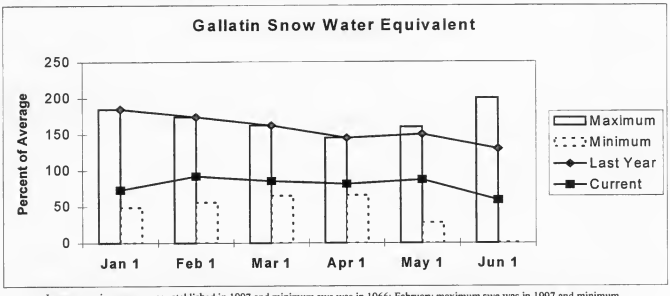
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

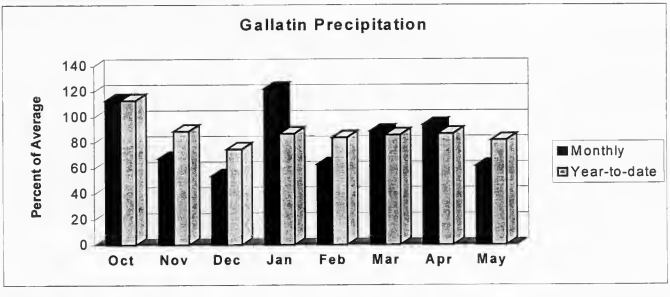
Gallatin River Basin

Snowpack conditions in the Gallatin River Basin were well below average and the ninth lowest of record. Snow water content was 59 percent of average and 47 percent of last year.



January maximum swe was established in 1997 and minimum swe was in 1966; February maximum swe was in 1997 and minimum was in 1981; March maximum swe was in 1997 and minimum was in 1977 and 1987; April maximum swe was in 1997 and minimum was in 1987; May maximum swe was in 1970 and minimum swe was in 1987; and June maximum swe was in 1975 and minimum in 1987. Average is for the period 1961 through 1990.

Mountain precipitation during May, was 64 percent of average and 69 percent of last year and valley precipitation was 43 percent of average and 32 percent of last year. Water year precipitation, beginning October 1, 1997, was 82 percent of average and 63 percent of last year.



Middle Creek storage, on the last day of May, was 146 percent of average and 138 percent of last year. Note: Middle Creek storage was increased by 2,200 acre-feet during the fall of 1995, therefore the percent of average is reflecting the new capacity with averages prior to the additional storage.

Seasonal streamflows, for the period June through July, are forecast to be 73 percent of average and 55 percent of last years forecasts.

The snowmelt peak flow for the Gallatin River near Gallatin Gateway is expected to occur by June 8; and the Gallatin River near Logan occurred on May 8 and was 54 percent of average.

Surface Water Supply Index (SWSI) was -2.3 for the Gallatin River.

GALLATIN RIVER BASIN

Streamflow Forecasts - June 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Probable) (1000AF)	(% AVG.)	======= Wetter =====>> 30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
GALLATIN RIVER near Gateway	JUN-JUL	185	206	220	75	234	255	294
	JUN-SEP	234	259	275	74	291	316	371
E & W FK HYALITE CREEK near Bozeman	JUN-JUL	6.5	8.6	10.0	63	11.4	13.5	16.0
	JUN-SEP	8.4	10.8	12.5	65	14.2	16.6	19.3
HYALITE CREEK nr Bozeman (2)	JUN-JUL	12.0	14.7	16.5	75	18.3	21	22
	JUN-SEP	15.6	18.8	21	75	23	26	28
GALLATIN RIVER at Logan (2)	JUN-JUL	123	172	205	71	238	287	287
	JUN-SEP	172	228	265	72	302	358	370

GALLATIN RIVER BASIN

Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MIDDLE CREEK	10.2	10.2	7.4	7.0

GALLATIN RIVER BASIN

Watershed Snowpack Analysis - June 1, 1998

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
UPPER GALLATIN	3	69	88
HYALITE	2	31	39
BRIDGER	2	5	5
GALLATIN RIVER BASIN	7	48	59
MISSOURI HEADWATERS	29	61	82

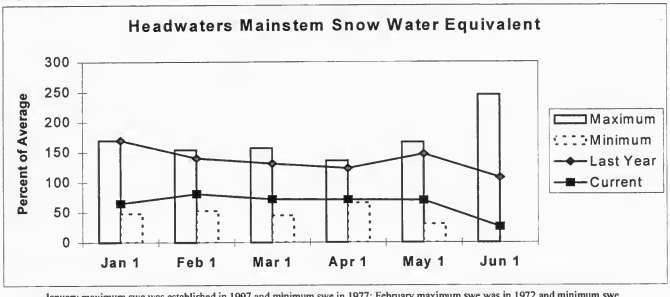
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

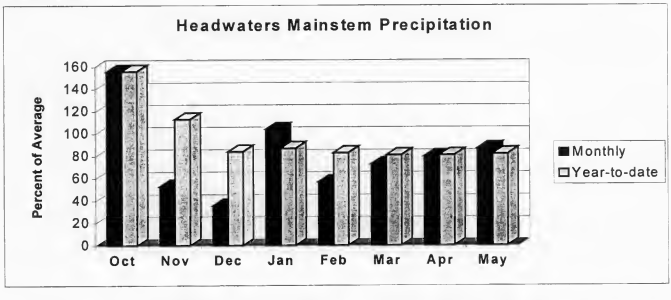
Missouri Mainstem River Basin

Snowpack conditions in the Missouri Mainstem were extremely below average. Snow water content in the Headwaters Mainstem was 26 percent of average, 24 percent of last year, and fifth lowest of record; in the Smith-Judith-Musselshell was 22 percent of average, 21 percent of last year, and seventh lowest of record; and in the Sun-Teton-Marias was 0 percent of average, 0 percent of last year, and tied with the lowest years of record.



January maximum swe was established in 1997 and minimum swe in 1977; February maximum swe was in 1972 and minimum swe was in 1977; March maximum swe in 1972 and minimum swe was in 1977; April maximum swe was in 1972 and minimum swe was in 1961; May maximum swe was in 1975 and minimum swe was in 1977; and June maximum swe was in 1982 and minimum swe was in 1992. Average is for the period 1961 through 1990.

Mountain precipitation during May was 95 percent of average and 81 percent of last year and valley precipitation was 74 percent of average and 76 percent of last year. Water year precipitation, beginning October 1, 1997, was 82 percent of average and 74 percent of last year.



Reservoir storage, on the last day of May, was 107 percent of average and 110 percent of last year. Canyon Ferry Lake storage was 107 percent of average and 112 percent of last year; Helena Valley storage was 125 percent of average and 101 percent of last year; Lake Helena storage was 108 percent of average and 100 percent of last year; Hauser & Helena storage was 104 percent of average and 100 percent of last year; Holter Lake storage was 104 percent of average and 100 percent of last year; and Fort Peck Lake storage was 99 percent of average and 91 percent of last year.

Seasonal streamflows, for the period June through July, are forecast to be 62 percent of average and 46 percent of last year.

The snowmelt peak flow for the Missouri River near Toston occurred on May 8, 9, and 10 at 62 percent of average.

Surface Water Supply Index (SWSI) was -0.8 for the Missouri River above Canyon Ferry; -0.2 for the Missouri River below Canyon Ferry; -0.4 for the Missouri River above Ft. Peck; and -0.3 for the Missouri River below Ft. Peck.

MISSOURI MAINSTEM RIVER BASIN
Streamflow Forecasts - June 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter ======>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
MISSOURI RIVER at Toston (2)	JUN-JUL	634	771	865	77	959	1096	1120
	JUN-SEP	833	1010	1130	77	1250	1427	1461
PRICKLY PEAR CREEK near Clancy	JUN-JUL	0.2	4.0	6.8	57	9.6	13.7	12.0
	JUN-SEP	1.2	6.3	9.8	62	13.3	18.4	15.8
SUN RIVER at Gibson Dam (2)	JUN-JUL	82	122	150	53	178	218	281
	JUN-SEP	120	162	190	58	218	260	329
MISSOURI RIVER at Fort Benton (2)	JUN-JUL	466	814	1050	63	1286	1634	1671
	JUN-SEP	640	1075	1370	61	1665	2100	2262
MARIAS RIVER near Shelby (2)	JUN-JUL	87	99	91	39	134	198	236
	JUN-SEP	7.0	68	110	40	152	213	277
MISSOURI RIVER at Virgelle (2)	JUN-JUL	245	808	1190	61	1572	2135	1942
	JUN-SEP	549	1151	1560	61	1969	2571	2564
MISSOURI RIVER near Landusky (2)	JUN-JUL	255	850	1255	60	1660	2255	2109
	JUN-SEP	697	1271	1660	60	2049	2623	2792
MISSOURI RIVER below Fort Peck (2)	JUN-JUL	86	738	1180	57	1622	2274	2072
	JUN-SEP	458	1061	1470	59	1879	2482	2490
LAKE SAKAKAWEA Inflow (2)	JUN-JUL	2959	3716	4230	76	4744	5501	5540
	JUN-SEP	3522	4509	5180	74	5851	6838	6989

MISSOURI MAINSTEM RIVER BASIN
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
CANYON FERRY LAKE	2043.0	1773.0	1588.0	1659.0
HELENA VALLEY	9.2	9.1	9.0	7.3
LAKE HELENA	10.4	10.9	10.9	10.1
HAUSER & HELENA	61.9	63.1	63.1	60.9
HOLTER LAKE	81.9	81.2	81.4	78.0
FORT PECK LAKE (MAF)	18.9	15.4	17.0	15.5

MISSOURI MAINSTEM RIVER BASIN
Watershed Snowpack Analysis - June 1, 1998

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
MISSOURI MAINSTEM	6	24	26
SMITH-JUDITH-MUSSELSHELL	7	21	22
SUN-TETON-MARIAS	6	0	0
MISSOURI abv FT PECK	18	12	16
MILK RIVER BASIN	5	0	0
MISSOURI MAINSTEM BASIN	22	14	17

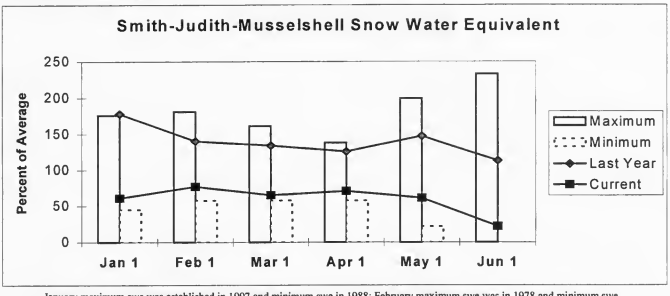
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

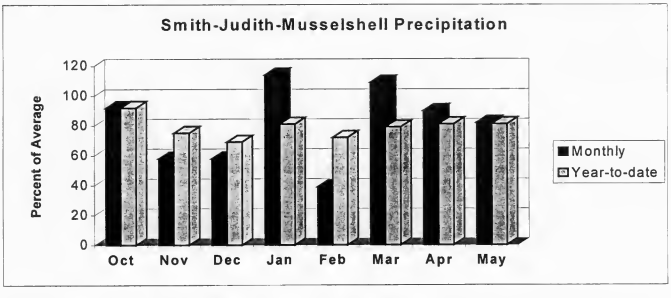
Smith-Judith-Musselshell River Basins

Snowpack conditions in the Smith-Judith-Musselshell River Basins were extremely below average and seventh lowest of record. Snow water content in the Smith River Basin was 25 percent of average and 22 percent of last year; and in the Judith River Basin was 34 percent of average and 31 percent of last year.



January maximum swe was established in 1997 and minimum swe in 1988; February maximum swe was in 1978 and minimum swe was in 1987; March maximum swe was in 1978 and minimum swe was in 1987; April maximum swe was in 1970 and minimum swe was in 1992; and May maximum swe was in 1970 and minimum swe was in 1987; and June maximum swe was in 1982 and minimum swe was in 1992. Average is for the period 1961 through 1990.

Mountain and valley precipitation during May in the Smith River was 97 percent of average and 92 percent of last year; the Judith River was 74 percent of average and 84 percent of last year; and the Musselshell River was 80 percent of average and 79 percent of last year. Water year precipitation for the Smith-Judith-Musselshell, beginning October 1, 1997, was 81 percent of average and 69 percent of last year.



Reservoir storage, on the last day of May, was 113 percent of average and 102 percent of last year. Smith River storage was 110 percent of average and 101 percent of last year; Newlan Creek storage was 114 percent of average; Bair storage was 95 percent of average and 105 percent of last year; Martinsdale storage was 127 percent of average and 100 percent of last year; and Deadman's Basin was 112 percent of average and 88 percent of last year.

Seasonal streamflows, for the period June through July, are forecast to be 55 percent of average and 38 percent of last years forecasts.

The snowmelt peak flow for Sheep Creek near White Sulphur Springs occurred on May 8 to May 14.

Surface Water Supply Index (SWSI) was -2.4 for the Smith River and -1.2 for the Musselshell River.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Streamflow Forecasts - June 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter ====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SHEEP CREEK nr White Sulphur Springs	JUN-JUL	0.4	2.8	4.4	44	6.0	8.4	10.0
	JUN-SEP	2.4	5.1	6.9	54	8.7	11.4	12.9
SMITH RIVER blw Eagle Creek	JUN-JUL	9.3	20	28	54	36	47	52
	JUN-SEP	16.7	34	46	63	58	75	73
NF MUSSELSHELL near Delpine	JUN-JUL	0.05	0.35	0.80	35	1.25	1.91	2.30
	JUN-SEP	0.06	0.68	1.30	42	1.92	2.83	3.10
SF MUSSELSHELL abv Martinsdale	JUN-JUL	0.3	1.1	8.0	31	14.9	25	26
	JUN-SEP	0.3	1.4	9.0	31	16.6	28	29

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
SMITH RIVER	10.6	11.5	11.4	10.5
NEWLAN CREEK	12.4	10.9	---	9.6
BAIR	7.0	5.9	5.6	6.2
MARTINSDALE	23.1	21.8	21.7	17.2
DEADMAN'S BASIN	72.2	61.8	70.5	55.1

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Watershed Snowpack Analysis - June 1, 1998

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
SMITH	4	22	25
JUDITH	4	31	34
MUSSELSHELL	2	0	0
SMITH-JUDITH-MUSSELSHELL	7	21	22

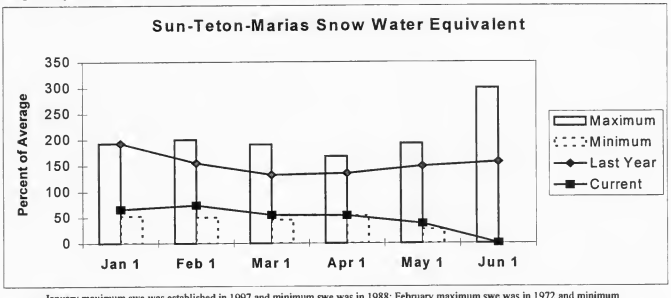
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

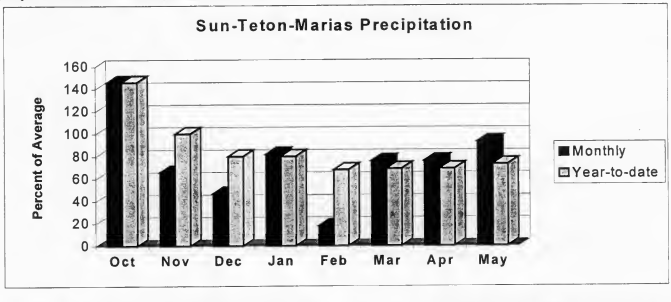
Sun-Teton-Marias River Basins

Snowpack conditions in the Sun-Teton-Marias River Basins were extremely below average and tied for the lowest years of record with 1987, 1992, and 1993. Snow water content for the Sun River Basin was 0 percent of average and 0 percent of last year; the Teton River Basin was 0 percent of average and 0 percent of last year; and the Marias River Basin was 0 percent of average and 0 percent of last year.



January maximum swe was established in 1997 and minimum swe was in 1988; February maximum swe was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum swe was in 1984; April maximum swe was in 1972 and minimum swe was in 1984; May maximum swe was in 1972 and minimum swe was in 1977; and June maximum was in 1982 and minimum swe was in 1992. Average is for the period 1961 through 1990.

Mountain and valley precipitation for May in the Sun River, was 117 percent of average and 120 percent of last year; in the Teton River was 87 percent of average and 74 percent of last year; and in the Marias River was 87 percent of average and 70 percent of last year. Water year precipitation for all three basins, beginning October 1, 1997, was 73 percent of average and 60 percent of last year.



Reservoir storage, on the last day of May, was 114 percent of average and 94 percent of last year. Gibson storage was 106 percent of average and 109 percent of last year; Pishkun storage was 102 percent of average and 100 percent of last year; Willow Creek storage was 84 percent of average and 126 percent of last year; Lower Two Medicine Lake storage was 113 percent of average and 102 percent of last year; Four Horns Lake storage was 78 percent of average and 83 percent of last year; Swift storage was 114 percent of average and 108 percent of last year; Lake Frances storage was 73 percent of average and 63 percent of last year; and Lake Elwell (Tiber) storage was 123 percent of average and 95 percent of last year.

Seasonal streamflows, for the period June through July, are forecast to be 49 percent of average and 38 percent of last years forecasts.

The snowmelt peak flow for the Marias near Shelby occurred on May 6 and was 22 percent of average; Gibson Reservoir inflow occurred on May 8; and Swift Reservoir between May 8 and May 14.

Surface Water Supply Index (SWSI) was -2.6 for the Sun River; -3.4 for the Teton River; -3.4 for the Marias River; and -3.0 for the Birch/Dupuyer Creeks.

SUN-TETON-MARIAS RIVER BASINS
Streamflow Forecasts - Juna 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Probable) (1000AF)	(% AVG.)	======= Wetter =====>> 30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SUN RIVER at Gibson Dam (2)	JUN-JUL	82	122	150	53	178	218	281
	JUN-SEP	120	162	190	58	218	260	329
TWO MEDICINE RIVER near Browning (2)	JUN-JUL	6.0	44	70	67	96	134	105
	JUN-SEP	14.0	53	80	68	107	146	117
BADGER CREEK naar Browning (2)	JUN-JUL	7.2	23	33	58	43	59	57
	JUN-SEP	19.9	36	47	64	58	74	74
SWIFT RESERVOIR Inflow neer Dupuyer	JUN-JUL	3.3	13.8	21	55	28	39	38
	JUN-SEP	10.4	22	30	60	38	50	50
DUPUYER CREEK near Valier	JUN-JUL	0.00	0.38	2.45	32	6.27	11.90	7.60
	JUN-SEP	0.00	0.28	3.90	41	8.12	14.34	9.50
CUT BANK CREEK at Cut Bank	JUN-JUL	0.0	6.0	12.0	26	18.0	27	47
	JUN-SEP	3.3	12.0	18.0	32	24	33	56
MARIAS RIVER near Shelby (2)	JUN-JUL	87	99	91	39	134	198	236
	JUN-SEP	7.0	68	110	40	152	213	277

SUN-TETON-MARIAS RIVER BASINS
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
GIBSON	99.1	95.4	87.3	90.1
PISHKUN	32.0	30.6	30.7	30.1
WILLOW CREEK	32.2	24.0	19.0	28.5
LOWER TWO MEDICINE LAKE	11.9	12.5	12.3	11.1
FOUR HORNS LAKE	19.2	10.2	12.3	13.0
SWIFT	30.0	28.2	26.2	24.8
LAKE FRANCES	112.0	63.7	101.0	87.4
LAKE ELWELL (TIBER)	1347.0	851.1	894.1	690.8

SUN-TETON-MARIAS RIVER BASINS
Watershed Snowpack Analysis - June 1, 1998

Watarshed	Number of Data Sites	This Year as % of Last Yr	Average
SUN	2	0	0
TETON	3	0	0
MARIAS	3	0	0
SUN-TETON-MARIAS	6	0	0

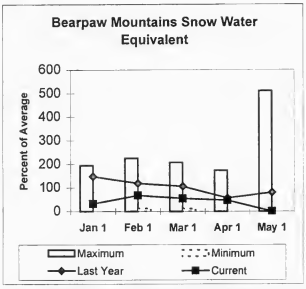
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in tha table.

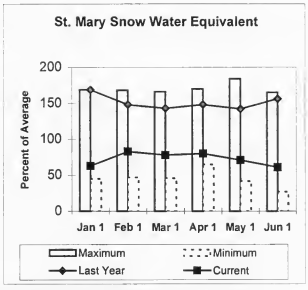
The average is computad for the 1961-1990 base period.

(1) - The velues listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

St. Mary and Milk River Basins

Snowpack conditions in the St. Mary River Basin was well below average and eighth lowest of record. The Milk River Basin snowpack has melted out. Snow water content in the St. Mary was 61 percent of average and 39 percent of last year.

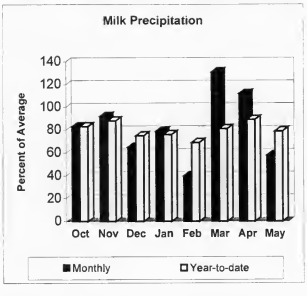


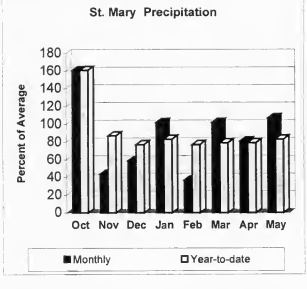


Bearpaw - January maximum swe was established in 1978 and minimum swe was in 1981; February maximum swe was 1978 and minimum was in 1973; March maximum swe was 1978 and minimum swe was 1981; April maximum swe was in 1975 and minimum swe was in 1983; May maximum swe was 1975 and the minimum has occurred in several years. Average is for the period 1961 through 1990.

St. Mary - January maximum swe was established in 1997 and minimum swe was in 1988; February maximum swe was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum swe was in 1977; April maximum swe was in 1972 and minimum swe was in 1992; May maximum swe was in 19972 and minimum swe was in 1977; and June maximum swe was in 1991 and minimum swe was 1992. Average is for the period 1961 through 1990.

Mountain and valley precipitation for May in the St. Mary River was 107 percent of average and 98 percent of last year and in the Milk River was 58 percent of average and 56 percent of last year. Water year precipitation for both basins combined, beginning October 1, 1997, was 81 percent of average and 75 percent of last year.





Reservoir storage, on the last day of May, was 81 percent of average and 72 percent of last year. Lake Sherburne storage was 136 percent of average and 118 percent of last year; Fresno storage was 68 percent of average and 60 percent of last year; Beaver Creek storage was 83 percent of average and 69 percent of last year; and Nelson storage was 68 percent of average and 61 percent of last year.

Seasonal streamflows for the St. Mary Basin, for the period June through July, are forecast to be 59 percent of average and 50 percent of last years forecasts. Seasonal streamflows for the Milk River Basin, for the period June through July, are forecast to be 31 percent of average and 28 percent of last years forecasts.

Surface Water Supply Index (SWSI) was -2.9 for the Milk River.

ST. MARY and MILK RIVER BASINS
Streamflow Forecasts - June 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter ======>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SWIFTCURRENT CREEK at Sherburne (2)	JUN-JUL	25	32	36	56	40	47	64
	JUN-SEP	39	47	52	64	57	65	81
ST. MARY RIVER near Babb	JUN-JUL	124	136	145	56	154	166	261
	JUN-SEP	165	186	200	61	214	235	329
ST. MARY RIVER at US/CAN Border (2)	JUN-JUL	148	170	185	62	200	222	298
	JUN-SEP	204	235	255	68	275	306	376
MILK RIVER at Western Crossing	JUN-JUL	0.5	2.0	4.5	38	7.0	10.7	12.0
	JUN-SEP	0.6	3.4	6.5	43	9.6	14.2	15.0
MILK RIVER at Eastern Crossing (2)	JUN-JUL	0.0	0.3	5.0	31	9.7	16.6	16.0
	JUN-SEP	0.0	2.4	7.7	32	17.7	33	24
BEAVER CREEK near Havre	JUN-JUL	0.00	0.32	0.50	13	1.44	2.82	4.00

ST. MARY and MILK RIVER BASINS
Reservoir Storage (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
LAKE SHERBURNE	64.3	43.6	37.1	32.0
FRESNO	127.0	60.7	100.9	89.1
BEAVER CREEK	3.5	2.4	3.5	2.9
NELSON	66.8	29.0	47.3	42.6

ST. MARY and MILK RIVER BASINS
Watershed Snowpack Analysis - June 1, 1998

Watershed	Number of Date Sites	This Year as % of Last Yr	Averege
ST. MARY	2	39	61
BEARPAW MOUNTAINS	5	0	0
CYPRESS HILLS, CANADA	0	0	0
MILK RIVER BASIN	5	0	0
ST. MARY & MILK BASINS	7	39	60

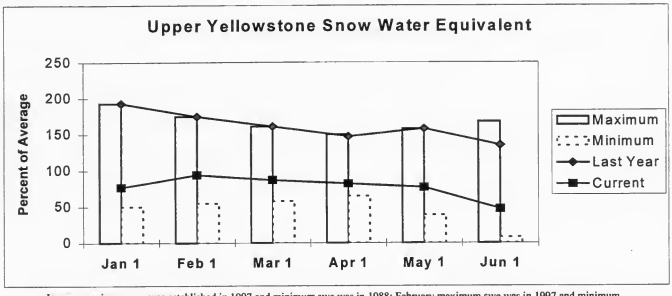
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be effected by upstream water management.

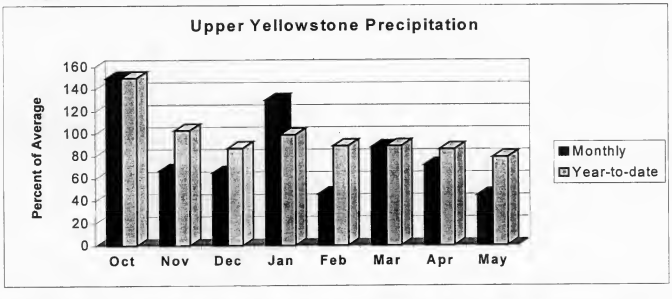
Upper Yellowstone River Basin

Snowpack conditions in the Upper Yellowstone River Basin were extremely below average and fifth lowest of record. Snow water content was 47 percent of average and 36 percent of last year.



January maximum swe was established in 1997 and minimum swe was in 1988; February maximum swe was in 1997 and minimum swe was in 1977; March maximum swe was in 1997 and minimum swe was in 1977; April maximum swe was in 1971 and minimum swe was in 1981; May maximum swe was in 1997 and minimum swe was in 1987; and June maximum swe was 1982 and minimum swe was in 1987 and 1994. Average is for the period 1961 through 1990.

Mountain precipitation for May was 48 percent of average and 58 percent of last year and valley precipitation was 33 percent of average and 33 percent of last year. Water year precipitation, beginning October 1, 1997, was 79 percent of average and 60 percent of last year.



Reservoir storage, on the last day of May, was 103 percent of average and 85 percent of last year. Mystic Lake storage was 73 percent of average and 69 percent of last year and Cooney storage was 112 percent of average and 88 percent of last year.

Seasonal streamflows, for the period June through July, are forecast to be 78 percent of average and 56 percent of last years forecasts.

The snowmelt peak flows for the Yellowstone River should occur by June 8.

Surface Water Supply Index (SWSI) was -2.9 for the Yellowstone River above Bighorn River; -2.2 for the Yellowstone River above Livingston; -3.6 for the Shields River; -3.5 for the Boulder River; -3.2 for the Stillwater River; -3.0 for the Rock/Red Lodge Creeks; and -3.1 for the Clarks Fork River.

UPPER YELLOWSTONE RIVER BASIN
Streamflow Forecasts - June 1, 1998

Forecast Point	Forecast Period	<<------ Drier ------ Future Conditions ------- Wetter ------>> 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
YELLOWSTONE at Lake Outlet	JUN-JUL	305	349	380	81	411	455	472
	JUN-SEP	473	528	565	82	602	657	691
YELLOWSTONE RIVER at Corwin Springs	JUN-JUL	883	953	1000	87	1047	1117	1156
	JUN-SEP	1139	1235	1300	88	1365	1461	1484
YELLOWSTONE RIVER near Livingston	JUN-JUL	990	1085	1150	86	1215	1310	1335
	JUN-SEP	1316	1434	1515	88	1596	1714	1721
SHIELDS RIVER neer Livingston	JUN-JUL	26	43	54	70	65	82	77
	JUN-SEP	36	55	68	72	81	100	95
BOULDER RIVER at Big Timber	JUN-JUL	103	125	140	55	155	177	253
	JUN-SEP	112	141	160	57	179	208	282
WEST ROSEBUD CREEK neer Roscoe (2)	JUN-JUL	32	37	40	78	44	49	51
	JUN-SEP	45	51	55	80	59	65	69
STILLWATER RIVER nr Absarokee (2)	JUN-JUL	229	259	280	74	301	331	380
	JUN-SEP	287	331	360	76	389	433	475
CLARKS FORK RIVER near Belfry	JUN-JUL	227	268	295	75	322	363	395
	JUN-SEP	252	299	330	73	361	408	453
COONEY RESERVOIR INFLOW (2)	JUN-JUL	1.5	7.8	12.0	50	16.2	23	24
	JUN-SEP	1.4	11.3	18.0	51	25	35	35
YELLOWSTONE RIVER at Billings (2)	JUN-JUL	1361	1634	1820	72	2006	2279	2525
	JUN-SEP	1692	2039	2275	72	2511	2858	3159

UPPER YELLOWSTONE RIVER BASIN
Reservoir Storege (1000 AF) - End of May

Reservoir	Usable Capacity	*** Usable Storege *** This Year	Lest Year	Avg
MYSTIC LAKE	21.0	4.0	5.8	5.5
COONEY	27.4	22.3	25.2	20.0

UPPER YELLOWSTONE RIVER BASIN
Watershed Snowpack Analysis - June 1, 1998

Watershed	Number of Data Sites	This Year as % of Lest Yr	Averege
YELLOWSTONE ab LIVINGSTON	11	45	61
SHIELDS	4	4	7
BOULDER-STILLWATER	3	30	35
CLARK'S FORK-ROCK CREEK	9	42	55
UPPER YELLOWSTONE RIVER	23	36	48

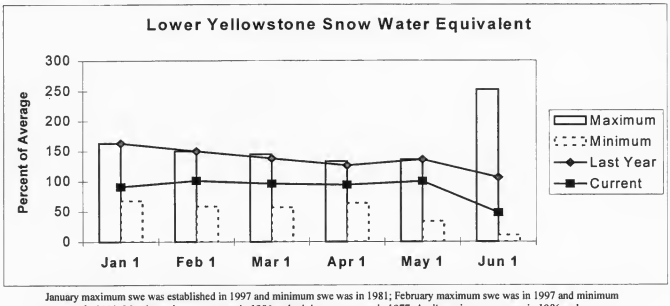
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The everege is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be effected by upstream water management.

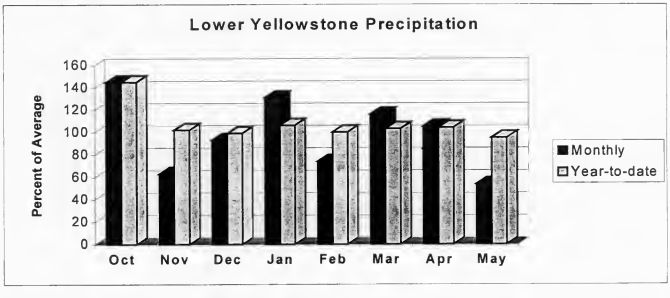
Lower Yellowstone River Basin

Snowpack conditions in the Lower Yellowstone River (Mountains in Wyoming) Basin were extremely below average and sixth lowest of record. Snow water content was 48 percent of average and 46 percent of last year.



January maximum swe was established in 1997 and minimum swe was in 1981; February maximum swe was in 1997 and minimum swe was in 1981; March maximum swe was in 1986 and minimum swe was in 1977; April maximum swe was in 1986 and minimum swe was in 1981; May maximum swe was in 1997 and minimum swe was in 1981; and June maximum swe was in 1995 and minimum swe was in 1994. Average is for the period 1961 through 1990.

Mountain and valley precipitation for May was 54 percent of average and 64 percent of last year. Water year precipitation, beginning October 1, 1997, was 95 percent of average and 80 percent of last year.



Reservoir storage, on the last day of May, was 98 percent of average and 101 percent of last year. Bighorn Lake storage was 100 percent of average and 102 percent of last year and the Tongue River storage was 56 percent of average and 86 percent of last year.

Seasonal streamflows, for the period June through July, are forecast to be 74 percent of average and 57 percent of last years forecasts.

Surface Water Supply Index (SWSI) was -2.2 for the Yellowstone River below Bighorn River; -1.4 for the Bighorn River below Bighorn Lake; -3.1 for the Little Bighorn River; -3.4 for the Tongue River; and -2.3 for the Powder River.

LOWER YELLOWSTONE RIVER BASIN
Streamflow Forecasts - June 1, 1998

Forecast Point	Forecast Period	<<======= Drier ====== Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	Future Conditions 50% (Most Probable) (1000AF)	(% AVG.)	======= Wetter ======>> 30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
YELLOWSTONE RIVER at Billings (2)	JUN-JUL	1361	1634	1820	72	2006	2279	2525
	JUN-SEP	1692	2039	2275	72	2511	2858	3159
BIGHORN RIVER nr St. Xevier (2)	JUN-JUL	536	693	800	70	907	1064	1141
	JUN-SEP	593	794	930	71	1066	1267	1306
LITTLE BIGHORN RIVER nr Herdin	JUN-JUL	20	35	45	60	55	70	75
	JUN-SEP	24	44	57	62	70	90	92
TONGUE RIVER stateline nr Decker (2)	JUN-JUL	49	73	90	67	107	131	135
	JUN-SEP	57	87	107	67	127	157	161
YELLOWSTONE RIVER at Miles City (2)	JUN-JUL	1588	2232	2670	71	3108	3752	3753
	JUN-SEP	1943	2760	3315	72	3870	4688	4631
POWDER RIVER at Moorhead	JUN-JUL	69	91	105	91	119	141	116
	JUN-SEP	77	108	130	94	152	183	138
POWDER RIVER near Locate	JUN-JUL	49	85	110	80	135	171	138
	JUN-SEP	58	107	140	86	173	222	162
YELLOWSTONE RIVER nr Sidney (2)	JUN-JUL	1531	2465	3100	79	3735	4669	3928
	JUN-SEP	1860	3003	3780	79	4557	5700	4763

LOWER YELLOWSTONE RIVER BASIN
Reservoir Storege (1000 AF) - End of May

Reservoir	Usable Capecity	*** Usable Storege *** This Year	Last Year	Avg
BIGHORN LAKE	1356.0	859.7	846.3	855.6
TONGUE RIVER	68.0	26.8	31.2	48.2

LOWER YELLOWSTONE RIVER BASIN
Watershed Snowpack Analysis - June 1, 1998

Watershed	Number of Dete Sites	This Yeer as % of Lest Yr	Averege
WIND RIVER (Wyoming)	11	62	57
SHOSHONE RIVER (Wyoming)	6	47	54
BIGHORN RIVER (Wyoming)	15	45	47
LITTLE BIGHORN (Wyoming)	2	65	57
TONGUE RIVER (Wyoming)	5	16	17
POWDER RIVER (Wyoming)	5	4	5
LOWER YELLOWSTONE RIVER	28	46	48
YELLOWSTONE BASIN	46	40	48

* 90%, 70%, 30%, end 10% chences of exceeding are the probabilities thet the ectuel volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The velues listed under the 10% and 90% Chance of Exceeding ere ectuelly 5% and 95% exceedance levels.
(2) - The velue is neturel volume - ectual volume mey be effected by upstream weter menegement.

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Bozeman, MT 59715

Montana
Basin Outlook Report

Natural Resources Conservation Service
Bozeman, MT